

Supplementary material file SC: Details of the development of the solar dryer

Solar drying of sludge from a steel wire drawing industry

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The sensors used in the experimental drier prototype and details of the development stage of the solar dryer prototype are shown in Table S5 and Figure S3, respectively.

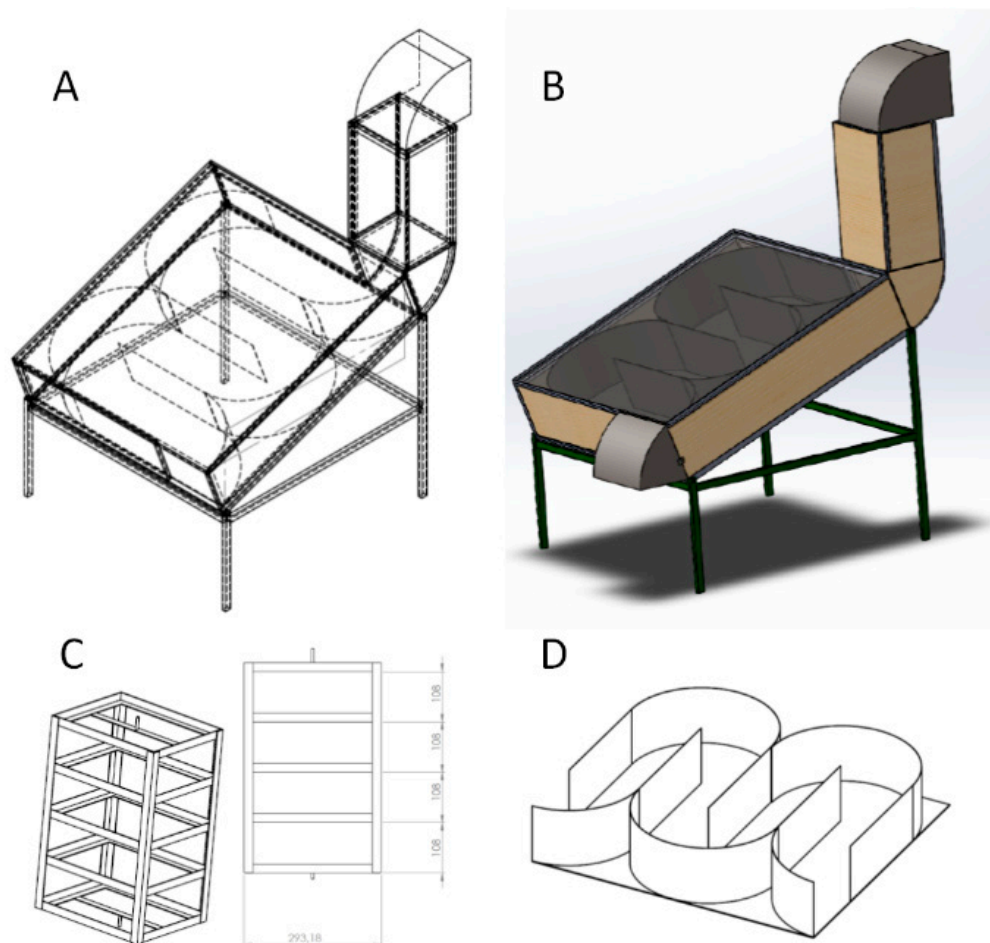







Figure S3. Drawing of solar dryer parts. (A) schematic design of the dryer, (B) drawing of the dryer in view, (C) drying basket, (D) baffle channel.

Table S5. Instrumentation used in the solar dryer.

Sensor	Use	Sensor features
 PT-100 temperature sensor	Measure the temperature at various points in the dryer	Made of platinum, with resistance nominal 100 ohms at 0°C
 Thermal hygrometer	Graphic Recorder for Temperature + Humidity measurement and Set Point condensation. Extech RH520A	The RH520A's Internal Memory can store up to 49,152 measurements for later transfer to a PC
 Pyranometer	Used for measurements of the global solar radiation incident on the equipment plane.	Weather resistant silicone sensor cosine correction. Low cost.
 multifunction anemometer	To measure the air velocity at the inlet of the equipment.	High measurement accuracy. Measure luminosity, temperature and relative humidity.
 Shelter	The Mini Solar Panel 12V 150mA is used to generate energy for the solar dryer fan.	Solar Panel, Multifunction Solar Panel 12v Waterproof, Dura.